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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,885	01/24/2001	Kimio Inoue	202182US3	2548

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9  
EXAMINER

SORKIN, DAVID L

ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 05/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/767,885	INOUE, KIMIO
	Examiner	Art Unit
	David L. Sorkin	1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 18 March 2003.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-3 and 5-11 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-3 and 5-11 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claim 1 is rendered indefinite by its preamble "A screw set in a twin-screw extruder...". It is unclear if the "twin-screw extruder" is required by the claim, or if the screw set is merely intended for use in the extruder. In other words, it is unclear if any additional structure beyond the "screw set" is required by the phrase "in a twin-screw extruder". Applicant has stated in paper No. 7 that claims 1-3 and 5-9 "clearly set forth the sub-combination of a screw set in a twin-screw extruder". While this statement successfully repeats the preamble, it does not indicate whether or not the phrase "in a twin-screw extruder" further adds structure to the sub-combination screw set.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 6 and 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al. (US 5,947,593). Regarding claim 1, Inoue ('593) discloses a

screw set in a twin-screw extruder comprising a rotor segment (a first segment 1b) which provide a plurality of tips (those of 7a,7b,7c) different from each other in the circumferential direction, said kneading rotor having a constant sectional shape (such as the cross-sectional shape of Fig. 4) in the axial direction, as viewed in a section transverse to the axial direction, and a screw segment (a second segment 1b) comprising at least one screw blade, said screw segment, except for crest portions, having the same sectional shape as said rotor segment, as viewed in a section transverse to the axial direction, except for crest portions (see col. 6, line 50-col. 7 line 6; Figs. 6-8). Regarding claims 2-3, the reference discloses that multiple segments may be used and that some or all may be in the form of "disks" (see col. 3, lines 27-32). Regarding claim 5, each counterclockwise, clockwise, and parallel blades are disclosed by the reference (see col. 10, lines 37-38, Figs. 6-9). Regarding claim 6, Figs. 6-9 each disclose both clockwise and counterclockwise blades. Regarding claim 8, the set comprises two kneading blades (see col. 5, lines 20-23). Regarding claim 9, the set comprises three kneading blades (see col. 5, lines 20-23). Regarding claim 10, Inoue ('593) discloses a twin-screw extruder comprising a barrel (3) having two intercommunicating chambers (4); and a screw set (1) rotatably mounted in each of said chambers so as to mesh with one another (see col. 12, lines 1-13); each screw set comprising a rotor segment (a first segment 1b) which provide a plurality of tip clearances (those of 7a,7b,7c) different from each other in the circumferential direction, said kneading rotor having a constant sectional shape (such as the cross-sectional shape of Fig. 4) in the axial direction, as viewed in a section transverse to the axial

Art Unit: 1723

direction, and a screw segment (a second segment 1b) comprising at least one screw blade, said screw segment, except for crest portions, having the same sectional shape as said rotor segment, as viewed in a section transverse to the axial direction, except for crest portions (see col. 6, line 50-col. 7 line 6; Figs. 6-8). Regarding claim 11, the rotor segment provides tip clearances different from each other in the axial direction (see col. 3, lines 27-32; Fig. 1).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,947,593). As stated above Inoue ('593) discloses all three types of blades. While Inoue ('593) does not explicitly disclose a specific segment having all three blades, it is considered that the embodiment of Fig. 12 together with col. 10, lines 37-38 would have suggested to one of ordinary skill in the art to include all three types in a segment.

***Response to Arguments***

7. Applicant argues that "The Examiner has thus compared the shape of two rotor segments, and not a screw segment with a rotor segment". However, the examiner does not consider that terms "rotor segment" and "screw segment" are mutually exclusive. Generally, the examiner considers that a "rotor segment" is a segment

intended to be rotated and a "screw segment" is a segment having generally helical features. While the reference refers to 1b as a "rotor segment", it clearly states that it includes blades "formed spirally" (see for example col. 5, lines 21-26). If a segment has blades "formed spirally", why should it not be considered a "screw segment"?

### ***Conclusion***

8. Applicant's amendment necessitated any new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 8:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone

numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
David Sorkin

May 9, 2003



CHARLES E. COOLEY  
PRIMARY EXAMINER